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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,655	11/29/2001	Wataru Kwasaki	FUJR 19.202	7390

2304 7590 05/05/2005

FRANKLIN D. CLARK
1984 NORTH LAKE MEAD CIRCLE
ORANGE, CA 92667

EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,655	KWASAKI ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11-29-2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figures 7 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: FIG. 11 doesn't show:

a) E (page 18 lines 6 and 10 of the specification);

b) H (page 18 line 13 of the specification); and

c) L (page 18 line 13 of the specification);

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

a) In page 18 line 8 the recitation "called in valid zone" is improper; it is suggested to be changed to "called invalid zone".

b) In page 24 line 4 the recitation "[1/]" is improper; it is suggested to be changed to "[1/ 2^n]" (see page 24 lines 9 and 10).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Uchida (US 6040738). Uchida discloses a clock timing extraction circuit extracting a clock timing

from an input signal, comprising: phase comparing means for comparing a phase of the input signal and that of a frequency-divided clock to thereby detect a phase difference (figure 4 block 52 column 7 lines 41-45); averaging means for averaging the phase difference to thereby generate a control voltage (figure 4 block 53 LPF column 7 lines 38-40); voltage-controlled oscillation means for oscillating a synchronizing clock based on the control voltage (figure 4 block 4 column 7 lines 38-48); frequency-dividing means for dividing the frequency of the synchronizing clock to generate the frequency-divided clock (figure 4 block 54 column 7 lines 38-48); and phase-locked loop control means for determining whether the control voltage falls within a set range to determine whether a phase-locked loop is in a locked state and dynamically setting the frequency-dividing ratio based on a result of determination (figure 4 block 11 column 7 lines 49-59).

Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Yamada (US 6728526). Yamada discloses a clock timing extraction circuit extracting a clock timing from an input signal, comprising: phase comparing means for comparing a phase of the input signal and that of a frequency-divided clock to thereby detect a phase difference (figure 1 block 1 column 5 lines 36-58); averaging means for averaging the phase difference to thereby generate a control voltage (figure 1 block 2 LPF column 5 lines 36-58); voltage-controlled oscillation means for oscillating a synchronizing clock based on the control voltage (figure 1 block 3 column 5 lines 36-58); frequency-dividing means for dividing the frequency of the synchronizing clock to generate the frequency-divided clock (figure 1 block 4 column 5 lines 36-58); and phase-locked loop control means for determining whether the control voltage falls within a set range to determine whether a

phase-locked loop is in a locked state and dynamically setting the frequency-dividing ratio based on a result of determination (figure 1 block 5 column 5 lines 36-58).

Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Solheim (US 5896391). Solheim discloses a regeneration control circuit performing a regeneration control of an input signal, comprising a voltage threshold level setting means for making a decision on the input signal by using a voltage threshold level and generating measured data from the input signal (figure 3 block 16 output 13 column 6 lines 5-17); clock phase setting means for setting a phase of a clock for decision making (figure 3 block 14 column 5 lines 48-54); level decision control means for determining whether levels of adjacent monitor points of the measured data to generate decision information (figure 3 block 16 column 6 lines 5-17); decision information hold means for holding the decision information (figure 3 block 18 column 6 lines 5-17); and optimal point setting means for identifying a decision point within a valid zone of an eye pattern at which there is the least possibility that error occurs from the decision information obtained by sequentially sweeping the voltage threshold level and the phase of the clock with respect to the input signal and performing the regeneration control in which the decision point thus identified is used as an optimal point (figure 2 and figure 3 block 16 column 5 lines 55-62).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solheim (US 5896391) and further in view of Uchida (US 6040738).

As per claim 1 Solheim discloses a transmission device performing a signal regeneration control, comprising a regeneration control circuit sequentially sweeping a voltage threshold level and a phase of an extracted clock with respect to the input signal to determine whether levels of adjacent monitor points match and to automatically measure a decision point within a valid zone of an eye pattern at which there is the least possibility that error occurs and performing the regeneration control by using the decision point as an optimal point (figures 2 and 3 column 5 line 25 to column 6 line 35). Solheim doesn't disclose a clock timing extraction circuit dynamically setting a frequency-dividing ratio based on a transmission rate of an input signal to perform a phase synchronization control so that the input signal and an oscillation output have a constant phase difference and extracting a clock timing based on the transmission rate. Uchida discloses a clock timing extraction circuit dynamically setting a frequency-dividing ratio based on a transmission rate of an input signal to perform a phase synchronization control so that the input signal and an oscillation output have a constant phase difference and extracting a clock timing based on the transmission rate (figure 4 column 7 line 34 to column 8 line 13). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by

Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 1.

As per claim 2 Uchida also discloses that the clock timing extraction circuit comprises a phase comparing means for comparing phases of the input signal and a frequency-divided clock to detect a phase difference therebetween (figure 4 block 52 column 7 lines 41-45); averaging means for averaging the phase difference to generate a control voltage (figure 4 block 53 LPF column 7 lines 38-40); voltage-controlled oscillation means for oscillating a synchronizing clock based on the control voltage (figure 4 block 4 column 7 lines 38-48); frequency-dividing means for dividing the frequency of the synchronizing clock to generate the frequency-divided clock (figure 4 block 54 column 7 lines 38-48); and phase-locked loop control means for determining whether the control voltage falls within a set range to determine whether a phase-locked loop is in a locked state and dynamically setting the frequency-dividing ratio based on a result of determination (figure 4 block 11 column 7 lines 49-59). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2

lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 2.

As per claim 5 Solheim also discloses that the regeneration control circuit comprises a voltage threshold level setting means for making a decision on the input signal by using the voltage threshold level and generating measured data from the input signal (figure 3 block 16 output 13 column 6 lines 5-17); clock phase setting means for setting a phase of the clock (figure 3 block 14 column 5 lines 48-54); level decision control means for determining whether levels of the adjacent monitor points of the measured data to generate decision information (figure 3 block 16 column 6 lines 5-17); decision information hold means for holding the decision information (figure 3 block 18 column 6 lines 5-17); and optimal point setting means for identifying a decision point within the valid zone of the eye pattern at which there is the least possibility that error occurs from the decision information obtained by sequentially sweeping the voltage threshold level and the extracted phase of clock and performing the regeneration control in which the decision point thus identified is used as the optimal point (figure 2 and figure 3 block 16 column 5 lines 55-62). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26).

Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 5.

As per claim 6 Solheim also discloses that the level decision control means pulls in phase a first output of the measured data triggered by a current clock and a second output of the measured data triggered by a delayed clock obtained by delaying the current clock by a fixed time, makes an exclusive-OR operation on the first and second outputs to make a level decision on the monitor point and generates the decision information (figure 4 blocks 101-102 column 6 lines 36-53). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 6.

As per claim 7 Solheim also discloses that the optimal point setting means applies an offset adjustment control to the clock timing extraction circuit when a maximum transmission rate of the input signal is equal to the rate of the synchronizing clock to thereby generate a through clock, the clock phase setting means selects the through clock to sweep the clock phase (figure 3 column 5 lines 40-54). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art

to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 7.

As per claim 8 Solheim also discloses that the optimal point setting means applies a count value control and a digital phase step control to the clock phase setting means when the transmission rate of the input signal is lower than that of the synchronizing clock to thereby generate a clock signal having a different frequency-dividing ratio, and applies an offset adjustment control to the clock timing extraction circuit to thereby generate a frequency-divided signal based on the clock signal, the clock phase setting means selects the frequency-divided clock to sweep the clock phase (figure 3 column 6 lines 5-17). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 8.

As per claim 9 Solheim also discloses that the optimal point setting means sets a reset cycle based on an error rate corresponding to the transmission rate of the input

signal, and resets the decision information held in the decision information holding means on the basis of the reset cycle (figure 2 and figure 3 column 6 lines 18-26). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 9.

As per claim 10 Solheim also discloses that the optimal point setting means controls to shift a next monitor point without waiting for the reset cycle when recognizing that the decision information is indicative of error (figure 2 and figure 3 column 6 lines 36-53). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 10.

As per claim 11 Solheim also discloses that the optimal point setting means comprises a memory for memorizing the decision information about the monitor points, and determines, as the optimal point, a monitor point located in a memory area in which there is the least error with respect to the voltage threshold level and the clock phase (figure 3 block 18 column 6 lines 5-18). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 11.

As per claim 12 Solheim also discloses that the optimal point setting means memorizes the voltage threshold level and the clock phase at the monitor point determined as the optimal point, and performs the regeneration control using the memorized voltage threshold level and the clock phase at the time of restart (figure 3 column 6 lines 5-26). Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction circuit disclosed by Uchida with the regeneration control circuit disclosed by Solheim. The suggestion/motivation for doing so would have been to improved reception characteristics of a receiver at low cost (Uchida column 2 lines 22-26). Therefore, it

would have been obvious to combine Solheim and Uchida to obtain the invention as specified in claim 12.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Solheim (US 5896391) Uchida (US 6040738) as applied to claim 2 above, and further in view of Nakamura (US 6741668). Solheim and Uchida disclose claim 2. Solheim and Uchida don't specifically disclose that the phase comparing means makes an exclusive-OR operation on a level of a rising edge of the frequency-divided clock and that of a falling edge thereof so that the phase difference is detected as a duty ratio. Nakamura discloses that the phase comparing means makes an exclusive-OR operation on a level of a rising edge of the frequency-divided clock and that of a falling edge thereof so that the phase difference is detected as a duty ratio (figure 7 column 3 line 37 to column 4 line 6 and column 13 lines 1-65). Solheim, Uchida and Nakamura are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the exclusive-or operation circuit disclosed by Nakamura with the regeneration control circuit disclosed by Solheim and Uchida. The suggestion/motivation for doing so would have been to reduce the jitter of the receiver (Nakamura column 2 lines 41-51). Therefore, it would have been obvious to combine Solheim and Uchida with Nakamura to obtain the invention as specified in claim 3.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Solheim (US 5896391) Uchida (US 6040738) as applied to claim 2 above, and further in view of Itaya (US 4625180). Solheim and Uchida disclose claim 2. Solheim and Uchida don't

specifically disclose that the phase-locked loop control means sets a frequency-dividing ratio available before power off in the frequency-dividing means at the time of power off and sets a control voltage available before breaking of the input signal in the averaging means when the input signal breaks. Itaya discloses that the phase-locked loop control means sets a frequency-dividing ratio available before power off in the frequency-dividing means at the time of power off and sets a control voltage available before breaking of the input signal in the averaging means when the input signal breaks (figure 4 column 5 lines 40-50). Solheim, Uchida and Itaya are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the power off technique disclosed by Itaya with the regeneration control circuit disclosed by Solheim and Uchida. The suggestion/motivation for doing so would have been to reduce the fluctuations of the phase locked loop the receiver (Itaya abstract). Therefore, it would have been obvious to combine Solheim and Uchida with Itaya to obtain the invention as specified in claim 4.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naito (US 6538786) in view of Solheim (US 5896391), and further in view of Uchida (US 6040738). Naito discloses an optical receiver receiving a light signal and performing a regeneration control, comprising an opto-electric conversion unit converting the light signal into an electric signal (figure 1 block 31 column 10 lines 40-51); a filtering unit performing a waveform equalizing control of the electric signal (figure 1 block 31 column 10 lines 40-51). Naito doesn't disclose a clock timing extraction unit dynamically setting

a frequency-dividing ratio based on a transmission rate of the input signal to perform a phase synchronization control so that there is a fixed phase difference between the input signal and an oscillation output and extracting a clock timing based on the transmission rate; and a regeneration control unit sequentially sweeping a voltage threshold level and an extracted phase of clock with respect to the input signal to automatically measure a decision point within a valid zone of an eye pattern at which there is the least possibility that error occurs, the decision point thus identified being used as an optimal point. Uchida discloses a clock timing extraction unit dynamically setting a frequency-dividing ratio based on a transmission rate of the input signal to perform a phase synchronization control so that there is a fixed phase difference between the input signal and an oscillation output and extracting a clock timing based on the transmission rate (figure 4 column 7 line 34 to column 8 line 13). Solheim discloses a regeneration control unit sequentially sweeping a voltage threshold level and an extracted phase of clock with respect to the input signal to automatically measure a decision point within a valid zone of an eye pattern at which there is the least possibility that error occurs, the decision point thus identified being used as an optimal point (figure 3 column 5 line 25 to column 6 line 35). Naito, Solheim and Uchida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the clock timing extraction disclosed by Uchida and the regeneration control circuit disclosed by Solheim with the optical communication system disclosed by Naito. The suggestion/motivation for doing so would have been to improved reception

characteristics of a receiver at low cost (Uchida column 2 lines 22-26) and to reduce the degradation between a transmitter and a receiver from sources related to sampling and quantizing effects (Solheim column 1 lines 11-13). Therefore, it would have been obvious to combine Solheim and Uchida with Naito to obtain the invention as specified in claim 15.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoneno (US 6115075) discloses a method and apparatus for adjusting dot clock signal. Bruce (US 6188737 B1) discloses a method and apparatus for efficiently regenerating an incoming data signal at a sampling point which is continually optimized independently of the regeneration process. Nohara (US 5333147 A) discloses an automatic monitoring of digital communication channel conditions using eye patterns.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
4-21-2005

M. Ghayour

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER

Please type a plus sign (+) → +

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1449/PTO	U.S. Department of Commerce Patent and Trademark Office	Application No. : Filing Date : First Named Inventor: W. KAWASAKI Group Art Unit : Examiner Name : Attorney Docket No. : FUJR 19.202

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet 1 of 1

JC556 U.S. PTO 09/997655 11/29/01

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.[1]	U.S. Patent Document	Kind Code if known[2]	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns Lines Where Relevant Passages or Relevant Figures Appear

FOREIGN DOCUMENTS

Examiner Initials	Cite No.[1]	Foreign Patent Document Office[3] Number[4] Kind Code[5] (if known)	Country	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns Lines Where Relevant Passages or Relevant Figures Appear
JAT		02203622	JP	Nippon Telegr & Teleph Corp. <NTT>	08/13/90	
JAT		07066801	JP	Nec Corp	03/10/95	

Other Prior Art-Non Patent Literature Documents

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), data, page(s), volume-issue number(s), publisher, country, where published, source.	Applicant check her if English language translation attached

Examiner Signature		Date Considered	4/19/2005

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Notice of References Cited	Application/Control No. 09/997,655	Applicant(s)/Patent Under Reexamination KWASAKI ET AL.	
	Examiner Juan A. Torres	Art Unit 2631	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,040,738 A	03-2000	Uchida, Jun	329/302
	B	US-6,728,526 B2	04-2004	Yamada et al.	455/260
	C	US-5,896,391 A	04-1999	Solheim et al.	714/704
	D	US-6,154,511 A	11-2000	Nakamura et al.	375/375
	E	US-4,625,180 A	11-1986	Itaya et al.	331/2
	F	US-6,741,668 B1	05-2004	Nakamura, Satoshi	375/376
	G	US-6,538,786 B1	03-2003	Naito, Takao	398/152
	H	US-6,115,075 A	09-2000	Yoneno, Kunio	348/537
	I	US-6,188,737 B1	02-2001	Bruce et al.	375/355
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